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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,645	09/20/2005	Arnd Ritz	DE 030093	8073
24737 7590 02/19/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
SNYDER, ZACHARY J				
ART UNIT		PAPER NUMBER		
4135				
MAIL DATE		DELIVERY MODE		
02/19/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/549,645

**Applicant(s)**

RITZ, ARND

**Examiner**

Zachary Snyder

**Art Unit**

4135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-850)  
Paper No(s)/Mail Date 7/24/2007 and 9/20/2005  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 4 is objected to because of the following informalities: "comprises a material from the group of titaninm oxide". It is suggested that "titaninm" should be replaced with "titanium". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claim 2, it is unclear what is meant by "substantially comparable."
4. For the purposes of examining, the examiner has interpreted that when the second claim states that the protective layer, the interference filter layers, and the lamp bulb are substantially comparable what is meant is that the lattice constant of the epitaxially grown layers have substantially comparable lattice constants so that when the bonds are formed between the layers, they are not dislocated, strained, or broken.
5. Regarding claim 3, the phrase "preferably mainly" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. For the purposes of examining, the examiner has interpreted anything following the phrase "preferably mainly" not as a limitation to the breadth of the claim.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,569,970 to Dynys et al.

3. Regarding claim 1, Dynys discloses in figure 1:

4. A lamp comprising a lamp bulb (envelope 10), on the surface of which at least one interference filter (interference filter 20) is at least partially located, wherein at least this interference filter comprises several layers, wherein the layer structure comprises alternating layers (COL. 5, LINE 56) with a higher refractive index (silica SiO<sub>2</sub>) and layers with a lower refractive index (tantala Ta<sub>2</sub>O<sub>5</sub>), wherein at least the outer layer and/or at least one inner layer of the interference filter (post-layer of titania, COL. 2, LINE 35) comprises a protective layer (titania layer) to reduce thermal and/or intrinsic stresses (titania layer reduces extrinsic stress in tantala layers, COL. 2, LINE 39), and wherein the thickness of the protective layer or protective layers has a value below 40% of the value of all other layers with the lower refractive index. (Using a possible embodiment from the specification of Dynys wherein the number of layers is 100 (COL. 5, LINE 65), the thickness of the post-layer protection layer of titania is 50 Å (COL.

5, LINE 21), and the thickness of the higher refractive index layer is 500 Å (COL. 5, LINE 19) if the thickness of the protective layer were to have a value greater than 40% of the thickness of all other layers with the lower refractive index, the total thickness of the layers with the lower refractive index would have to be thinner than 125 Å. Having an interference film wherein the higher refractive layers were more than 200 times thicker than the lower refractive index layers would not achieve the desired optical effects.)

5. Proffered as evidence only is Advances in X-Ray Analysis Volume 35A edited by Charles Sanborn Barrett et al., Springer, 1992. In the first paragraph on page 463, in the chapter titled "Defining Residual Stresses in Thin Film Structures", the author states that "extrinsic stresses have been generally defined as thermal stresses that are due to the incompatibility of the displacements caused by (unequal) thermal expansion in the film(s) and the substrate." This definition was used in determining if the protective layer of titania reduced thermal and/or intrinsic stresses.

6. Regarding claim 2, Dynys further discloses:

7. The lamp as claimed in independent claim 1, characterized in that the materials used in the protective layer (titania layer), the layer (interference film 20), and the lamp bulb (envelope 10) are substantially comparable.

8. Using the examiner's interpretation of claim 2, the materials used must be substantially comparable if deposition of the thin film was able to take place.

9. Regarding claim 3, Dynys further discloses:

10. The lamp (envelope 10) as claimed in independent claim 1, characterized in that the layer of the interference filter (interference film 20) with the lower refractive index preferably

comprises mainly  $\text{SiO}_2$  (wherein the silica is the low refractive index material, COL. 1, LINE 29-32) and that the second layer of the interference filter comprises a material which has a higher refractive index than  $\text{SiO}_2$ , (tantala is the high refractive index material, COL. 1, LINE 29-32).

11. Regarding claim 4, Dynys further discloses:

12. Lamp as claimed in claim 3, characterized in that the second layer (tantala layer) comprises a material from the group of titanium oxide, tantalum oxide, niobium oxide, hafnium oxide, silicon nitride, and particularly preferably zirconium oxide  $\text{ZrO}_2$ , or a mixture of these materials. The second layer is comprised of tantalum oxide. (Tantalum pentoxide,  $\text{Ta}_2\text{O}_5$ , COL. 1, LINE 29)

13. Regarding claim 5, Dynys further discloses:

14. The lamp as claimed in independent claim 1, characterized in that the preferred lamp is a high intensity discharge lamp or a halogen lamp. (Figure 1 is a side view of an elongated tungsten halogen lamp having an optical interference film, COL. 3, LINE 12-14)

15. Regarding claim 6, Dynys further discloses:

16. Lamp as claimed in claim 1, characterized in that the one protective layer (titania layer) or all protective layers (titania layers) is or are arranged within the interference filter (interference film 20). (The film 20 consists of alternating layers of tantala and silica. The tantala layers are adjacent with a titania pre-layer and/or post-layer. COL. 5, LINE 56-60)

17. Regarding claim 7, Dynys further discloses:

18. An illumination unit with at least one lamp as claimed in any one of the preceding claims. (Figure 1 is a side view of an elongated tungsten halogen lamp having an optical interference film, COL. 3, LINE 12-14)

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Snyder whose telephone number is (571)270-5291. The examiner can normally be reached on Monday through Thursday, 7:30AM to 6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William M. Brewster can be reached on (574)272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Snyder/  
Examiner, Art Unit 4135

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Examiner, Art Unit 4135

/JESSICA STULTZ/  
Primary Examiner, Art Unit 4135